

## INTERNATIONAL SEARCH REPORT

IB2004/051986

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H03F3/34

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H03F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 387 951 A (PHILIPS NV) 19 September 1990 (1990-09-19) column 7, line 1 - line 20; figure 2	1,2,4,8
X	US 4 728 815 A (MAIN W ERIC) 1 March 1988 (1988-03-01) abstract; figure 4	1,2,4,8
A	US 2002/180490 A1 (VOORMAN JOHANNES OTTO ET AL) 5 December 2002 (2002-12-05) cited in the application the whole document	1-9
A	US 2001/038301 A1 (FRAMBACH JOHANNES P A ET AL) 8 November 2001 (2001-11-08) figures 3-6	1-9
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

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- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

21 December 2004

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27/01/2005

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 399 991 A (MORAVEJI FARHOOD) 21 March 1995 (1995-03-21) figures 2,3A -----	1,9

## INTERNATIONAL SEARCH REPORT

IB2004/051986

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0387951	A	19-09-1990	DE 69011366 D1	15-09-1994
			DE 69011366 T2	23-02-1995
			EP 0387951 A1	19-09-1990
			HK 44296 A	22-03-1996
			JP 2274109 A	08-11-1990
			JP 2869664 B2	10-03-1999
			KR 149650 B1	01-09-1999
			US 5038114 A	06-08-1991
US 4728815	A	01-03-1988	GB 2196499 A , B	27-04-1988
			JP 2082615 C	23-08-1996
			JP 7105698 B	13-11-1995
			JP 63114410 A	19-05-1988
			KR 9507691 B1	14-07-1995
US 2002180490	A1	05-12-2002	CN 1388924 T	01-01-2003
			WO 0219050 A1	07-03-2002
			EP 1316005 A1	04-06-2003
			JP 2004507955 T	11-03-2004
US 2001038301	A1	08-11-2001	WO 0031604 A1	02-06-2000
			EP 1057091 A1	06-12-2000
			JP 2002530971 T	17-09-2002
			US 6323723 B1	27-11-2001
US 5399991	A	21-03-1995	NONE	